

Jan. 1, 1929.

1,697,699

E. TOWILL
GLAZING CLIP

Filed Jan. 12, 1927

2 Sheets-Sheet 1

Fig. 4.

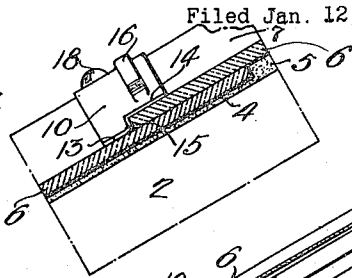


Fig. 1.

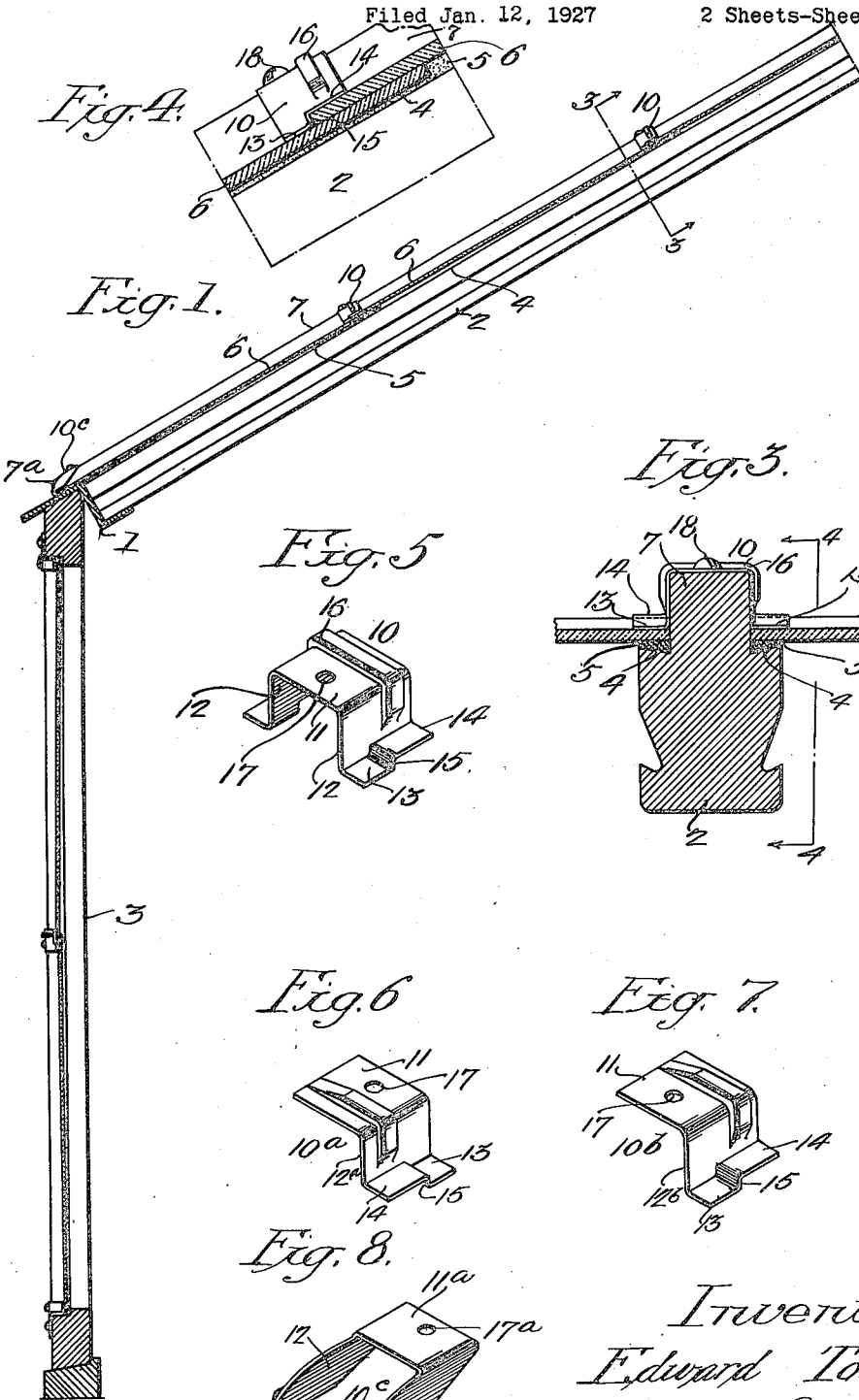


Fig. 3.

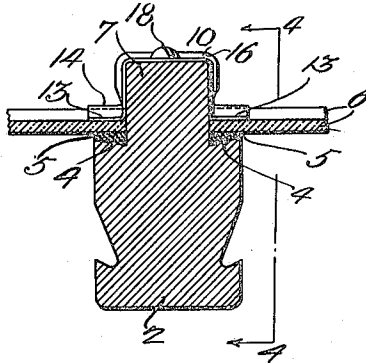


Fig. 5.

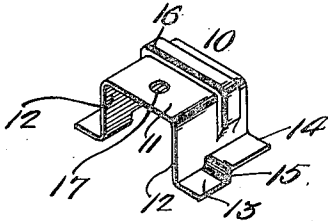


Fig. 6.

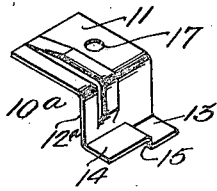


Fig. 7.

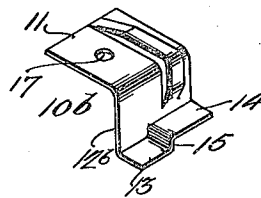
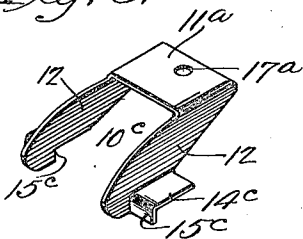


Fig. 8.



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2 Sheets-Sheet 2

Fig. 7.

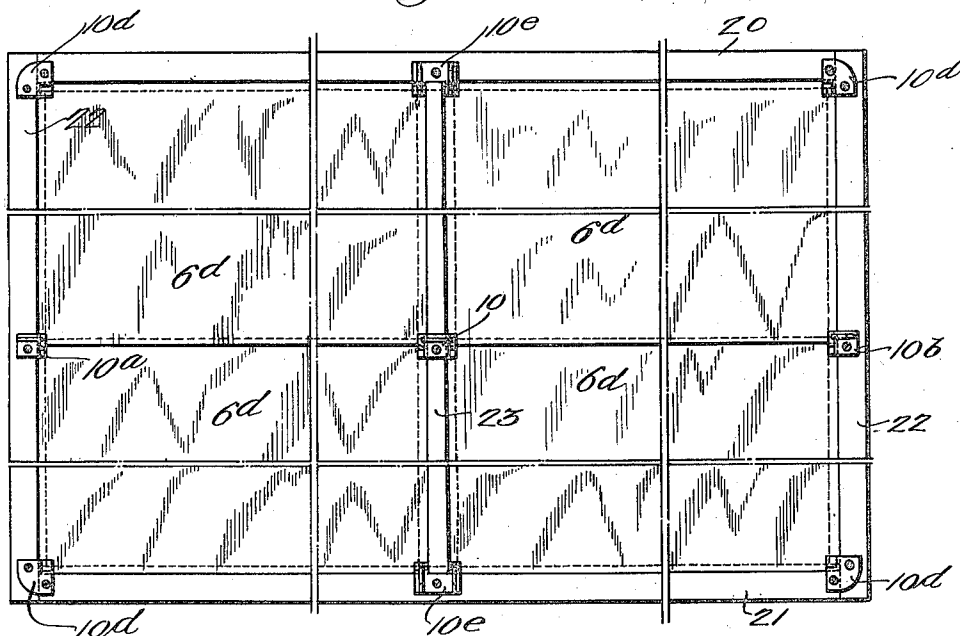


Fig. 10.

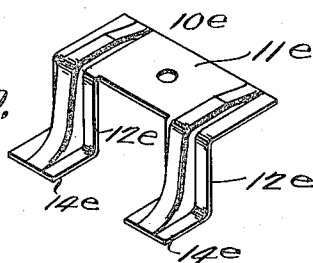
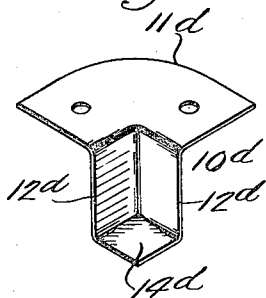


Fig. 9.



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1,697,699

UNITED STATES PATENT OFFICE.

EDWARD TOWILL, OF ROSLYN, PENNSYLVANIA.

GLAZING CLIP.

Application filed January 12, 1927. Serial No. 160,695.

The object of this invention is to provide a simple and efficient glazing clip, especially for green houses, which can be manufactured at a low cost, being formed from strips of sheet metal by automatic machinery; and which when in use replaces the old method of securing the glass by nails in the green house roof, side walls, ventilating frames, hot and cold outdoor frames, etc., and obviates the destruction of the glazing bars, common under the old method and which is well known to all users and builders of the above named structures.

Referring to the drawings:

Fig. 1 is a transverse sectional elevation through a portion of a green house roof and side wall ventilating sash, illustrating a typical utilization of my invention;

Fig. 2 is a face view of the ventilating sash;

Fig. 3 is a transverse sectional elevation of one of the roof glazing strips, taken on the line 3—3 of Fig. 1;

Fig. 4 is a sectional elevation taken on the line 4—4 of Fig. 3; and

Figs. 5 to 10 inclusive illustrate the various forms of the clip, each constructed in a manner to meet the particular condition at hand.

Common to all green house construction is an eaves plate 1 which forms a support for the roof glazing bars 2 and to which the ventilating side wall frames 3 are usually pivoted.

The roof glazing bars 2 are constructed in the manner illustrated in Fig. 3, being provided with shoulders 4, 4 upon which is successively placed a body of putty 5, on which the lights, or panes of glass, 6, 6 are laid, each upper light overlapping the underlying light as shown in Figs. 1 and 4. Intermediate the shoulders 4, 4 is a vertically extending tongue 7, which extends over the eaves plate 1 as shown at 7^a in Fig. 1.

My improved clip 10, illustrated in Fig. 5, is provided with top plate 11 having integral side plates 12, 12 thereon. Each side plate 12 is provided with a stepped foot which comprises a lateral flange 13 adapted to engage the lowermost or underlying light 6, a second lateral flange 14 adapted to engage the top surface of the upper light 6, at a top joint in the roof structure. The lower and upper lateral flanges 13 and 14 respectively are integrally connected by a web 15 which functions as a shoulder to engage the bottom edge of the upper light 6 and prevent it sliding

down the incline of the roof, relative to the underlying light 6. A bridge rib 16 is formed in the top and side plates 11 and 12, 12 to stiffen the clip. An aperture 17 is formed in the top plate 11 for the reception of a securing screw 18 which enters the vertical tongue 7 of the roof glazing bar 2.

Obviously, by tightening the screw 18, the clip 10 is held securely to the bar 2, the foot flanges 13 and 14 bear on the light 6, 6 and prevent their being raised or loosened and the shoulder 15 engages the bottom edge of the upper light 6 and prevents relative longitudinal movement between the adjacent and overlapping lights. In replacing broken lights, it is necessary to remove only the one screw 18 at each corner of the light, which may be quickly and easily replaced, no nailing with its consequent destruction of the roof bars 2 being necessary.

Figs. 6 and 7 illustrate respectively the lap joint clip 10^a and 10^b employed at the right and left ends of the roof, their construction being identical with that of the clip 10, shown in Fig. 5, with the exception that in each instance one of the side plates 12 is removed.

Fig. 8 illustrates a clip 10^c which is employed on the bars 2 at the eaves plate 1. The top plate 11^a in this instance is placed in advance of the lateral feet in order to place the screw opening 17^a a sufficient distance from the end 7^a of the tongue 7 of the bar 2, to prevent splitting of the said tongue when the screw 18 is put in place. In this instance one lateral foot flange is dispensed with as only one light is to be gripped. The foot flange 14^c engages the top face of the single light 6 and the shoulder 15^c engages the lower edge of said light to prevent it from slipping down the incline.

In Fig. 2, I have illustrated a ventilating side wall sash in which the top, bottom and side rails and intermediate rails 20, 21, 22 and 23 respectively are of equal thickness and shouldered below one face thereof to receive the lights 6^a.

The form of clip 10^d illustrated in Fig. 9 is employed at each corner of the frame 3 and consists of a top plate 11^d, side plates 12^d which adjoin each other at one edge and merge into a single foot plate 14^d. At the points where the intermediate rails 23 join the top and bottom rails 20 and 21 respectively the clip 10^d, shown in Fig. 10, is employed and comprises a top plate 11^d, side plates 12^d and foot plates 14^d. The side

and foot plates 12^a and 14^a extend to each side of the intermediate rail 23, as shown, and engage the face of the lights. At the lap of the lights 6^a, the clips 10, 10^a and 10^b are employed as shown.

From the above description, it will be obvious that in each instance I have provided a glazing clip which eliminates the nail for holding the glass which is unsatisfactory and destructive when replacing lights. By the removal of a screw, which can be replaced in the same hole repeatedly, the destruction of the glass supporting structure and the inconvenience encountered when replacing broken lights is eliminated.

I claim:

1. In combination with a glass supporting structure, a glazing clip comprising a top plate; a side plate integral with said top plate; a laterally extending integral flange on said side plate; a second integral and laterally extending flange on said side plate in a different but parallel plane relative to said first flange; and a web integral with said side plate and both of said lateral flanges and connecting the said flanges in a manner to form a shoulder extending at right angles to the respective planes of said flanges.

2. In combination with a glass supporting structure, a glazing clip comprising a top plate; a side plate integral with said top plate and depending from each side of said top plates; a laterally extending integral flange on each of said side plates; a second integral and laterally extending flange on each of said side plates in a different but parallel plane relative to said first flange; and a web integral with each of said side plates and both of said lateral flanges thereof and connecting the said flanges in a manner to form a shoulder extending at right angles to the respective planes of said flanges.

3. In combination with a glass supporting structure, a glazing clip comprising a top plate; a side plate integral with said top plate and depending from each side of said top plate; a laterally extending integral flange on each of said side plates; a second integral and laterally extending flange on each of said side plates in a different but parallel plane

relative to said first flange; a web integral with each of said side plates and both of said lateral flanges thereof and connecting the said flanges in a manner to form a shoulder extending at right angles to the respective planes of said flanges; and a stiffening rib formed on said top plate and each of said side plates.

4. In combination with a glass supporting structure, a glazing clip comprising a top plate; a side plate integral with said top plate and depending from each side of said top plate; a laterally extending integral flange on each of said side plates; a second integral and laterally extending flange on each of said plates in a different but parallel plane relative to said first flange; a web integral with each of said side plates and both of said lateral flanges thereof and connecting the said flanges in a manner to form a shoulder extending at right angles to the respective planes of said flanges; a stiffening rib formed on said top plate and each of said side plates; and an aperture formed in said top plate to receive a securing element whereby the said clip is secured to the said supporting structure.

5. A glazing clip adapted to be pressed from a single piece of relatively thin sheet metal and comprising a top plate; a side plate at each side of said top plate; a foot plate extending laterally from each of said side plates and having a longitudinal stepped formation comprising a pair of tread sections disposed at different but parallel planes and a riser section integrally connecting the said tread sections.

6. A glazing clip adapted to be pressed from a single piece of relatively thin sheet metal and comprising a top plate; a side plate at each side of said top plate; a foot plate extending laterally from each of said side plates and having a longitudinal stepped formation comprising a pair of tread sections disposed at different but parallel planes and a riser section integrally connecting the said tread sections; and a stiffening rib pressed in said top and side plates.

EDWARD TOWILL.